

Glossary

The intent of this glossary is to provide a comprehensive dictionary of Traffic signal terminology and therefore, contains many words not otherwise mentioned in this manual.

ACTUATE: To provide a signal or impulse to a controller input which is intended to cause an event or sequence of events. Signal origination is from a separate source such as a detector, coordination device or a manual control.

ACTUATION: The operation of a detector in registering the presence or passage of a vehicle or pedestrian.

AMPLIFIER: A device that is capable of intensifying the electrical energy produced by a sensor.

APPROVED EQUAL: This term refers to a component offered by the contractor as equal to the one specified by catalog number or brand name in these specifications. A device or piece of equipment shall be accepted as approved equal only if approved by the Engineer.

BACKPLATE: A strip of material surrounding a signal to provide a plain background for the signal indications.

BALLAST: A component used with lamps to control the current and to provide correct voltage for starting and sustaining operation.

BALLAST MOUNTING: Ballast may be mounted within the luminaire housing (integral); mounted in a weatherproof container attached to or beside the luminaire (contiguous); or mounted on the vertical support members (remote).

BEACON: A traffic signal of one or more faces consisting of one section each and used for flashing operation.

BEACON FLASHER: A complete electrical mechanism for controlling the operation of a flashing beacon, including all necessary auxiliary apparatus.

CABINET: An outdoor enclosure for housing the controller unit or associated equipment.

CONDULET: A fitting connected to solid or flexible electrical conduit to direct the routing path and employing a removable cover for wire pulling.

CONFLICT MONITOR: A device used to continually check for the presence of conflicting signal indications and to provide an output in response to conflict.

CONTROL CABLE: A group of separately insulated wires in a common jacket.

CONTROLLER (CONTROLLER ASSEMBLY): A complete electrical mechanism mounted in a cabinet for controlling the operation of a traffic control signal.

COORDINATION: The establishment of a definite timing relationship between adjacent traffic signals.

CROSS WALK: Any portion of a roadway, at an intersection or elsewhere, distinctly indicated for pedestrian crossing by lines or other markings on the surface.

CUTAWAY VISOR (CONTOURED, STANDARD): A visor which encircles approximately 300 degrees around the lens, the lower half of which is cut away and contoured.

CYCLE: Any complete sequence of signal indications.

CYCLE LENGTH (TIME CYCLE): The time required for one complete sequence of signal indications.

DETECTOR: device to determine the presence or passage of vehicles.

DETECTOR FUNCTIONS:

- **CALL DETECTOR:** A detector that is installed in a selected location to detect vehicles.
- **EXTENSION DETECTOR:** A detector that is arranged to register actuations at the controller during the green interval for that approach so as to extend the green time of the actuating vehicles.
- **SAMPLING DETECTOR:** Any type of vehicle detector used to obtain representative traffic flow information.

DETECTOR MODES: A term used to describe the function of detector output when a detection occurs.

- **PASSAGE DETECTION:** The ability of a vehicle detector to detect the passage of a vehicle moving through the detection zone and to ignore the presence of a vehicle stopped within the detection zone.
- **PRESENCE DETECTION:** The ability of a vehicle detector to sense that a vehicle, whether moving or stopped, has appeared in its field.
- **PULSE MODE:** Detector produces a short output pulse when detection occurs.
- **CARRYOVER (EXTENDED) OUTPUT:** The ability of a detector to continue its output for a predetermined length of time following an actuation.
- **DELAYED OUTPUT:** The ability of a detector to delay its output for a predetermined length of time during an extended actuation.

FEEDER CABLE: The electric cable which serves to connect the sensor to the input of the detector unit.

FIELD TERMINALS: Devices mounted on the panel for connecting all wires entering the controller cabinet.

FLASHER CONTROL UNIT: A device to open and close signal circuits at a repetitive rate.

FLASHER CONTROLLER: A complete electrical mechanism with cabinet for flashing a traffic signal or beacon.

FLASHING BEACON: A section of a standard traffic signal head, or a similar type device, having a yellow or red lens in each face, which is illuminated by rapid intermittent flashes.

FLUORESCENT FIXTURE: A lighting unit containing a fluorescent lamp mounted within a housing with a metal framed plastic cover and a reflector.

FULL-CIRCLE VISOR: A visor which encircles the entire lens.

HPS LUMINARIES: A lighting unit containing a high pressure sodium lamp mounted within a housing with a metal frame glass lens and a reflector.

INTERCONNECT: The communication network usually consisting of electrical cable connecting the system master with local intersection controllers.

INTERVAL: A discrete portion of the signal cycle during which signal indications do not change.

- **GREEN INTERVAL (RIGHT-OF-WAY):** The operation of a controller in causing traffic signals to display indications permitting vehicles or pedestrians to proceed in a lawful manner in preference to other vehicles or pedestrians.
- **YELLOW CLEARANCE INTERVAL:** The first clearance interval following the green interval right-of-way in which the signal indication for that phase is yellow.
- **RED CLEARANCE INTERVAL (ALL-RED):** A clearance interval which may follow the yellow clearance interval during which both the terminating phase and the next green (right-of-way) phase display red.
- **PEDESTRIAN INTERVAL (WALK INTERVAL):** A traffic interval allocated to pedestrian traffic which provides a pedestrian right-of-way indication either concurrently with one or more vehicular phases, or to the exclusion of all vehicular phases.
- **PEDESTRIAN CLEARANCE INTERVAL:** The interval during which the DON'T WALK indication is flashed, starting after a WALK indication and ending before conflicting vehicles receive a green indication.

LANE USE SIGN: A sign indicating regulations governing use of specific lanes.

LANE USE SIGNAL: An overhead signal having indications that permit or prohibit various movements from a specific lane of a roadway.

LAMP: The part of the optical unit which, when energized electrically, provides the optical unit light source.

LED MODULE: The LED (light emitting diode) kit that replaces the light bulb in any indication of a traffic signal head and replaces the ped indications in a pedestrian signal head.

LENS: That part of the optical unit through which light from the light source and reflector passes and, in so doing, is redirected into a prescribed pattern and is filtered to a prescribed color.

LOAD SWITCH: A device used to switch power to the signal lamps.

LOCAL CONTROLLER: A controller for operating traffic control signals at an intersection (or two or three proximate intersections) which may be isolated or included in a signal system.

LOOP DETECTOR: A detector that senses a change in the inductance of its inductive loop sensor caused by the passage or presence of a vehicle near the sensor.

LOUVERED VISOR: A tunnel visor with inserted louvered device to cut off the signal's visibility from a direction where it is not desired to be seen.

MICRO-LOOP: A detector that measures the difference in the level of the earth's magnetic forces caused by the passage or presence of a vehicle near its sensor.

MAST ARM: A structural support over the roadway extending from a pole, for the purpose of supporting signal heads.

MASTER CONTROLLER: An automatic devices for supervising a system of secondary controllers, maintaining definite time interrelationship, selecting among alternate available modes of operations, or accomplishing other supervisory functions.

MESSENGER CABLE: A steel cable used to support signal equipment.

MOVEMENT: The travel direction and destination of a lane or lanes of vehicles at an intersection, i.e., left turn, through or right turn.

OPEN-BOTTOM TUNNEL VISOR: A visor which encircles the entire lens except a segment equal to approximately two inches of circumference at the bottom of the lens.

OPTICALLY PROGRAMMED SIGNAL: A signal head containing optical units projecting an indication which is selectively veiled so as to be visible only within desired viewing boundaries.

OPTICAL UNIT: An assembly of lens, reflector, lamp and lamp socket with the necessary supporting parts to be used for providing a single signal indication.

PANEL: A board within the controller cabinet upon which are mounted field terminals, fuse receptacles or circuit breakers and other portions of the controller assembly not included in the controller unit or auxiliary devices.

PEDESTAL: A vertical support on which a signal or controller cabinet is mounted.

PEDESTRIAN DETECTOR (PUSH-BUTTON): A detector that is responsive to operation by a pedestrian.

PEDESTRIAN SIGNAL: A traffic control signal which is erected for the exclusive purpose of directing pedestrian traffic at signalized locations.

PTR SIGN: Stands for Part Time Restriction Sign. A traffic control sign that can only be read when turned on and restricts traffic movements. May be fiber optic or LED.

PHASE: Those right-of-way and clearance intervals in a cycle assigned to any independent movement(s) of vehicular traffic or pedestrians.

- **PEDESTRIAN PHASE:** A traffic phase allocated to pedestrian traffic which may provide a right-of-way pedestrian indication wither concurrently with one or more vehicular phases, or to the exclusion of all vehicular phases.
- **VEHICULAR PHASE:** A phase which is allocated to vehicular traffic movement as timed by the controller unit.
- **CONFLICTING PHASES:** Two or more phases which will cause interfering traffic movements if operated concurrently.
- **NON-CONFLICTING PHASES:** Two or more traffic phases which will not cause interfering traffic movements if operated concurrently.
- **NON-ACTUATED PHASE:** A controller phase with no means for receiving actuation from vehicles and pedestrians.

PHASE DIAGRAM: A diagram illustrating the sequence of phases at an intersection with movement arrows indicated for each phase and showing overlaps, concurrent timing, etc.

PHASE OVERLAP: Refers to a phase which operates concurrently with one or more other phases (for two phases that would not normally run together).

PHASE ROTATION: The order in which a controller cycles through all phases.

PHOTOELECTRIC CONTROL: An automatic switch controlled by ambient skylight intensity to turn lighting on or off according to the changes of night or day.

PLUMBIZER, MAST ARM: A mast arm mount where the signal head is rigidly affixed to the mast arm to prevent any relative movement between the signal and the arm.

POINT DETECTION: The detection of a vehicle as it passes a point or spot on a street or highway.

PREEMPTION: The transfer of the normal control of signals to a special control mode which may be required by railroad trains at crossings, emergency vehicles, or other special needs.

PROGRAMMED SIGNAL HEADS: See Optically Programmed Signal.

RAISED PAVEMENT MARKERS (R.P.M.'S): Low profile housings incorporating recessed plastic inserts and convex bottoms with parallel ridges which are epoxy bounded to matching pavement positions prepared with an absorbed concavity and saw cuts.

RAKE: Strain poles adjusted initially out of plumb but drawn to verticality under the span wire tensioning.

REFLECTOR: A contoured reflective surface which redirects light from the light source toward the lens.

SAG: The amount of deflection at the lowest point of span wire used for the mounting of signal heads.

SENSOR: The sensing element of a detector.

SIDE MOUNT: A signal mounting arrangement where the signal head is mounted to a pole.

SIGN, VARIABLE MESSAGE: A sign on which the legend may be changed by the selective energizing of lamps arranged in a pattern, by the use of a rotating drum, or other methods.

SIGNALS: Optical devices which are electrically operated by a controller and visually communicate a prescribed action (or actions) to traffic.

SIGNAL FACE: That part of a signal head provided for controlling traffic in a single direction. Turning indication arrows may be included in a signal face.

SIGNAL HEAD: An assembly containing one or more signal faces.

SIGNAL INDICATION: The illumination of a traffic signal lens or a combination of several lenses at the same time.

SIGNAL INSTALLATION: All of the equipment and material involved in the signal control at one intersection.

SIGNAL SYSTEM: Two or more signal installations operating in coordination.

SIGNAL SUPPORT: The physical means whereby a signal head is supported in a particular location.

SPAN WIRE MOUNT: A signal head suspended over the roadway on steel messenger cable.

STABILIZER WIRE AND ASSEMBLY: Used in high wind areas to reduce vertical movement and head twist.

TERMINAL BLOCKS, FIELD: Devices for connecting all wires entering the controller cabinet.

TETHER WIRE: Used on all wire installations to prevent heads from swaying.

TUNNEL VISOR: See Open-Bottom Tunnel Visor.

U.L., Underwriter's Laboratories: Tested and approved products for use on electrical projects. May be required for ALL Signal projects in OREGON. Is required for ALL electrical parts and assemblies, installed in OREGON, not part of a Traffic Signal.

VISOR (HOOD): That part of a signal section which protects the lens face from direct ambient light and screens the indication from traffic not intended to view it.

ZONE OF DETECTION: That area of the roadway within which a vehicle is detected by a vehicle detector system.